

We Claim:

- 5 1. A purified polynucleotide or fragment thereof derived from a CS194 gene, wherein said polynucleotide is capable of selectively hybridizing to the nucleic acid of said CS194 gene and has at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NOS 1-20, and fragments or complements thereof.
- 10 2. The purified polynucleotide of claim 1, wherein said polynucleotide is produced by recombinant techniques.
- 15 3. The purified polynucleotide of claim 1, wherein said polynucleotide is produced by synthetic techniques.
- 20 4. The purified polynucleotide of claim 1, wherein said polynucleotide comprises a sequence encoding at least one CS194 epitope.
- 25 5. A recombinant expression system comprising a nucleic acid sequence that includes an open reading frame derived from CS194 operably linked to a control sequence compatible with a desired host, wherein said nucleic acid sequence has at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NOS 1-20, and fragments or complements thereof.
- 30 6. A cell transfected with the recombinant expression system of claim 5.
- 35 7. A CS194 polypeptide having at least 60% identity with an amino acid sequence selected from the group consisting of SEQUENCE ID NOS 41-49, and fragments thereof.
8. The polypeptide of claim 7, wherein said polypeptide is produced by recombinant techniques.
- 35 9. The polypeptide of claim 7, wherein said polypeptide is produced by synthetic techniques.

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10. An antibody which specifically binds to at least one CS194 epitope, wherein said CS194 epitope is derived from an amino acid sequence having at least 50% identity with an amino acid sequence selected from the group consisting of SEQUENCE ID NOS 41-49, and fragments thereof.

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10. 11. A cell transfected with a nucleic acid sequence encoding at least one CS194 epitope, wherein said nucleic acid sequence is selected from the group consisting of SEQUENCE ID NOS 1-20, and fragments or complements thereof.

12. A method for producing a polypeptide comprising at least one CS194 epitope, said method comprising incubating host cells that have been transfected with an expression vector containing a polynucleotide sequence encoding a polypeptide, wherein said polypeptide comprises an amino acid sequence having at least 60% identity with an amino acid sequence selected from the group consisting of
15 SEQUENCE ID NOS 41-49, and fragments thereof.

20 13. A method for producing antibodies which specifically bind to CS194 antigen, said method comprising administering to an individual an isolated immunogenic polypeptide or fragment thereof in an amount sufficient to elicit an immune response, wherein said immunogenic polypeptide comprises at least one CS194 epitope and has at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NOS 41-49, and fragments thereof.

25 14. A method for producing antibodies which specifically bind to CS194 antigen, said method comprising administering to an individual a plasmid comprising a polynucleotide sequence which encodes at least one CS194 epitope derived from a polypeptide having an amino acid sequence selected from the group consisting of SEQUENCE ID NOS 41-49, and fragments thereof.

30 15. A composition of matter comprising a CS194 polynucleotide or fragment thereof, wherein said polynucleotide has at least 50% identity with a polynucleotide selected from the group consisting of SEQUENCE ID NOS 1-20, and fragments or complements thereof.

35 16. A composition of matter comprising a polypeptide containing at least one CS194 epitope, wherein said polypeptide has at least 60% identity with a sequence

selected from the group consisting of SEQUENCE ID NOS 41-49, and fragments thereof.

17. A gene, or a fragment thereof, which codes for a CS194 protein comprising an amino acid sequence that has at least 60% identity with SEQUENCE ID NO 41.

18. A gene, or a fragment thereof, comprising DNA having at least 50% identity with SEQUENCE ID NO 18, SEQUENCE ID NO 19, or SEQUENCE ID NO 20.

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